

REMARKS

Applicant has carefully reviewed the Application in light of the Advisory Action mailed January 28, 2004. Applicant cancels Claims 4-5, 11-12, and 14-15 without prejudice or disclaimer. The cancellation of these claims is not the result of any prior art reference, nor has it been done to address any potential deficiency in Applicant's specification. The cancellation of these claims has been done only in an effort to expedite the prosecution of this case. Applicant also amends Independent Claims 1 and 6. The amendments to the claims are not the result of any prior art reference and, thus, do not narrow the scope of any of the claims. Furthermore, the amendments are not related to patentability issues and only further clarify subject matter already present. Applicant respectfully requests reconsideration of the pending claims and favorable action in this case.

Section 102 Rejections

The Examiner rejects Claims 1-3, 6-7, and 12 under 35 U.S.C. §102(b), as being anticipated by U.S. Patent No. 5,647,035 issued to Cadeddu et al. (hereafter "*Cadeddu*"). Applicant respectfully traverses this rejection for the following reasons.

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 2 USPQ 2d 1051, 1053 (Fed. Cir. 1987); MPEP § 2131. In addition, "[t]he identical invention must be shown in as complete detail as is contained in the . . . claims" and "[t]he elements must be arranged as required by the claim." *Richardson v. Suzuki Motor Co.*, 9 USPQ 2d 1913, 1920 (Fed. Cir. 1989); *In re Bond*, 15 USPQ 2d 1566 (Fed. Cir. 1990); MPEP § 2131 (*emphasis added*). In regard to inherency of a reference, "[t]he fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic." MPEP § 2112 (citing *In re Rijckaert*, 9 F.3d 1531, 1534, 28 USPQ 2d 1955, 1957 (Fed. Cir. 1993) (*emphasis in original*)). Thus, in relying upon the theory of inherency, an Examiner must provide a basis in fact and/or technical reasoning to support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art. MPEP § 2112 (citing *Ex Parte Levy*, 17 USPQ 2d 1461, 1464 (Bd. Pat. at App. and Inter. 1990) (*emphasis in original*)).

Independent Claims 1 and 6 recite, in general, a plurality of information insertion devices optically coupled to an optical transmitter and configured to insert signaling information into the optical signals and a plurality of information extraction devices

optically coupled to an optical receiver and configured to extract signaling information from the optical signals, wherein the plurality of information insertion devices and the plurality of information extraction devices include optical transponders optically coupling the optical switch unit to the first optical carrier and the second optical carrier, the optical transponders being configured to change wavelengths of the optical signals.

In addition, Independent Claim 13 recites, in general, a plurality of nodes connected along the first optical carrier and the second optical carrier to form bidirectional links, the plurality of nodes communicating in pairs, one of the pairs defining a working link associated with a portion of the first optical carrier and a portion of the second optical carrier and being configured to exchange optical signals using a first wavelength on the first optical carrier and a second wavelength that is different from the first wavelength on the second optical carrier during a normal condition, the one pair of nodes being configured to exchange optical signals using the first wavelength on the second optical carrier and the second wavelength on the first optical carrier during a failure condition.

In contrast to the subject matter of these Independent Claims, *Cadeddu* provides a ring network communication structure on an optical carrier and a reconfigurable node for said structure. In the structure, a plurality of nodes are interconnected by means of connections that include a first and a second optical carrier such as an optical fiber. Transmission between two nodes occurs on the ring according to a wavelength-division multiplexing (WDM) scheme, by utilizing a first wavelength for communication in one direction on the first carrier and a second wavelength for communication in the opposite direction on the second carrier. The second wavelength on the first carrier and the first wavelength on the second carrier are reserved for protection (protection channels) and are "shared" among all the nodes. Under regular operation conditions of the network, the signals conveyed by the two fibers are detected, processed as required in units of a higher hierarchical level, converted again into optical signals, and re-transmitted toward the following node. In the presence of a failure on one of the connections, the nodes adjacent to the failed connection reconfigure themselves to ensure the continuation of communication on the alternative path provided by the ring: utilizing the first wavelength on the second carrier and the second wavelength on the first carrier. The embodiment described, referring to just two wavelengths λ_1, λ_2 , can be generalized to any number of wavelengths with a corresponding expansion of the described connection (switching matrices of the nxn type may be used).

Nowhere in *Cadeddu* is there any disclosure of a plurality of nodes connected along the first optical carrier and the second optical carrier to form bidirectional links, the plurality of nodes communicating in pairs, one of the pairs defining a working link associated with a portion of the first optical carrier and a portion of the second optical carrier and being configured to exchange optical signals using a first wavelength on the first optical carrier and a second wavelength that is different from the first wavelength on the second optical carrier during a normal condition, the one pair of nodes being configured to exchange optical signals using the first wavelength on the second optical carrier and the second wavelength on the first optical carrier during a failure condition. This is because the complexity of the node-switching structure of the claimed architecture depends only on the number of links managed by the nodes and does not depend on the number of wavelengths in the network. Moreover, switching operations are performed external to the network. In particular, the present invention allows switching of the single channel to be performed between the receiving and the transmitting transponders and, therefore, the multiplexed optical flux conditions at the input of the node amplifier are substantially unchanged. Thus, the subject matter of *Cadeddu* is clearly distinguishable from the pending claims.

Turning to *Shiragaki*, *Shiragaki* discloses a ring network for sharing protection resources by working communication paths. *Shiragaki* however fails to disclose a number of elements included in Independent Claims 1, 6, and 13. For example, *Shiragaki* fails to disclose the plurality of information insertion devices and the plurality of information extraction devices include optical transponders optically coupling the optical switch unit to the first optical carrier and the second optical carrier, the optical transponders being configured to change wavelengths of the optical signals. The Examiner concedes this in a previous Office Action. (See Office Action mailed October 5, 2003: page 13.) *Shiragaki* also has a number of other shortcomings that preclude it from inhibiting the patentability of the pending claims. For at least this reasons, Independent Claims 1, 6, and 13 are patentable over *Cadeddu* and *Shiragaki*. Claims 2-3, claims 7-10, and claims 16-21 depend from Claims 1, 6, and 13 respectively and, thus, are also allowable for similar reasons. Notice to this effect is respectfully requested in the form of a full allowance of these claims.

The Examiner has also made a number of other claim rejections based on non-obviousness (§103). However, the amendments to the claims, as well as the arguments provided supra, make these rejections moot. This is because in order to establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or

motivation; either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Third, the prior reference (or references when combined) must teach or suggest all of the claim limitations. (*See* M.P.E.P. § 2142-43.) It is respectfully submitted that these claims are patentable over the art of record based on, at least, the third criterion of obviousness: none of the references alone or in combination teach, suggest, or disclose each and every claim limitation. This has been evaluated thoroughly in the analysis provided above. For at least these reasons, all the pending claims are allowable over the references of record: either standing alone or in combination. Notice to this effect is again respectfully requested.

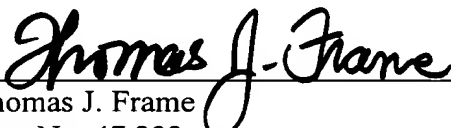
CONCLUSION

Applicant has now made an earnest attempt to place this case in condition for immediate allowance. For the foregoing reasons and for other reasons clear and apparent, Applicant respectfully requests reconsideration and allowance of the pending claims.

Applicant submits herewith a check in the amount of \$770.00 to satisfy the request for continued examination fee of 37 C.F.R. §1.17(e). If this is not correct, the Commissioner is hereby authorized to charge any fees or credit any overpayment to Deposit Account No. 02-0384 of Baker Botts, L.L.P.

If there are matters that can be discussed by telephone to advance prosecution of this application, Applicant invites the Examiner to contact its attorney at the number provided below.

Respectfully submitted,
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